

SaBTO

Advisory Committee on the Safety of
Blood, Tissues and Organs

Advice Concerning Organ Donation and Seasonal Influenza

DH Gateway reference number 16375

As the incidence of influenza increases in the population, there is a risk that organ donors may be infected, or have infection suspected or become known to be infected. In general, organs from any potential donors should be offered to the transplant community. Recent unpublished data from observations of a number of recipients of organs from H1N1v flu virus-infected donors in this country have not shown evidence of virus transmission. There are, however, reports of transmission of flu viruses by transplantation of lungs from infected donors. The decision to accept and use an organ for transplantation lies with the implanting surgeon together with local microbiological advice (in conjunction with informed consent from the recipient). After having given advice during the H1N1v pandemic regarding organ donation, SaBTO considers that it would be helpful to address the general issue of influenza infections in potential donors.

The current recommendations for seasonal flu vaccine in the influenza chapter of the Green Book¹ cover a wide range of chronic diseases, and therefore transplant-list patients should already have been immunised. It is prudent to ensure that such patients have been immunised, although it should be recognised that vaccine may not prevent infection, particularly in patients that may respond less well to immunisation eg immunocompromised patients. If by any chance there remain patients on transplant lists who are not included in the current Green Book terminology, those patients can be immunised at the discretion of the physicians or surgeons looking after them.

Transplant staff involved in direct patient care are recommended to have influenza immunisation annually, and follow the advice in the 'Immunisation of healthcare and laboratory staff' chapter of the Green Book² to reduce the risk of infections being transmitted.

Routine influenza testing of donors is not recommended, but a high index of suspicion for testing close to the time of donation is suggested if the clinical symptoms in the donor warrant this.

¹ The Green Book: Immunisation against infectious disease. The updated chapter on Influenza is available on the Department of Health website at http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_127082.pdf

² The chapter is published at http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_063632.pdf

A number of scenarios have been anticipated, and advice is proffered for each:

1. Potential donor dying of proven seasonal influenza as the primary cause of death

A proportion will be young people, who represent an important group of donors. There are reports of viral genome detected in many other organs as well as the lung, and of plasma viraemia. Organs may carry an infection risk to the recipient but this risk may be small if 10 or more days have elapsed after diagnosis of seasonal influenza in the donor. Therapeutic doses of antiviral drugs given to a donor in this period may in principle reduce this potential risk. Lungs and bowel should not be used from donors with proven seasonal influenza as the primary cause of death. Other organs may be offered and the final decision lies with the implanting surgeon weighing the balance of risks for the particular recipient.

Antiviral prophylaxis should be considered for the recipient (see note iv).

2. Potential donor with *confirmed* concomitant diagnosis of seasonal influenza infection

Donors may be diagnosed in the community or after admission to hospital, and influenza infection confirmed by testing, but come to donation because of another condition (eg intra cerebral bleed). Organs may carry an infection risk to the recipient but this risk may be small if 10 or more days have elapsed after the infection was diagnosed. Therapeutic doses of antiviral drugs given to a donor in this period may in principle reduce this potential risk. Lungs and bowel should not be used from donors with a confirmed concomitant diagnosis of seasonal influenza infection. Other organs may be offered; the final decision lies with the implanting surgeon weighing the balance of risks for the particular recipient.

Antiviral prophylaxis should be considered for the recipient (see note iv).

3. Potential donor with *suspected* concomitant seasonal influenza infection

Donors may be diagnosed syndromically in the community to have “flu” and come to donation because of another condition. This may happen commonly in an epidemic when a clinical diagnosis will suffice for public health purposes; for example the donor may have started on treatment before or after admission to hospital but the infection has not been confirmed by testing. Nose and throat swabs for influenza PCR should be taken. A positive result (if time permits) puts the donor in category (2) above. If time does not permit, lungs and bowel should not be used, but other organs may be offered; the final decision lies with the implanting surgeon weighing the balance of risks for the particular recipient. Organs may carry an infection risk to the recipient but this risk may be small if 10 or more days have elapsed after the time of syndromic diagnosis. Therapeutic doses of antiviral drugs given to a donor in this period may in principle reduce this potential risk.

Antiviral prophylaxis may be considered for the recipient in the absence of confirmed infection and should be considered for the recipient if the donor is found to have proven infection (see note iv).

4. Potential donor where infection is raised as a possibility

Donors may have been contact with a case (see note ii) and/or have symptoms indicating the likelihood of influenza infection and/or there is a temperature $>38^{\circ}\text{C}$. Nose and throat swabs should be taken. A positive result (if time permits) puts the donor in category (2) above. If time does not permit, lungs and bowel should not be used, but other organs may be offered; the final decision lies with the implanting surgeon weighing the balance of risks for the particular recipient.

Antiviral prophylaxis should be considered for the recipient of an organ from a donor found to be infected (see note iv).

5. Donor with a previous history of seasonal influenza

If presentation is more than 10 days after onset, and there has been full clinical recovery, donation of all organs can proceed.

6. All other donors – including those from ward/ITU where influenza patients are present

Donation should proceed along normal lines. Nose and throat swabs should be taken from donors **only** if there has been contact with a case (see note ii) and/or symptoms indicate the likelihood of influenza infection and/or there is a temperature $>38^{\circ}\text{C}$. This puts the donor in category (4) above.

Antiviral prophylaxis should be considered for the recipient of an organ from a donor found to be infected (see note iv).

7. Donors infected or potentially infected with influenza viruses not previously considered as seasonal influenza viruses

Human influenza infections are a feature of more widespread viral infections in animal hosts. From time to time there may be transmission of novel enzootic influenza viruses of unknown pathogenicity into humans. Although there is some limited evidence, as referred to in the first paragraph of this note, organs from donors infected with such viruses, eg bird flu and H5 viruses, should not be offered for use.

Notes

- i. It is recommended that nose and throat swabs are taken from a donor only if there has been contact with a case and/or symptoms indicate the likelihood of influenza infection and/or there is a temperature $>38^{\circ}\text{C}$. Results will be available in no longer than 24 hours. NHSBT, through the donor coordinators, should have the responsibility of informing the recipient centre of a positive result.

- ii. Contact is defined as either
 - a. household contact: any person who lives in the same household as a confirmed case and had at least one overnight stay in the household after the onset of illness in the confirmed case or in the 24 hours before confirmation; or
 - b. other close contact: any person who had >1 hour of unprotected (ie not wearing a mask or respirator) face-to-face contact (ie within touching or speaking distance) with a confirmed case while the case had symptoms of influenza or in the 24 hours before confirmation. Examples include classmate, dormitory mate, office colleague, etc.
- iii. Antiviral prophylaxis should be considered for all recipients where there is a confirmed diagnosis of influenza in the donor. Antiviral prophylaxis may also be considered for the recipient where the donor is suspected of having a seasonal influenza infection. The universal prophylaxis of all recipients is **not** recommended.
- iv. The choice of drugs for prophylactic use will depend both on the drugs used by the donor prior to donation and upon the type of influenza virus infecting the donor. Where prophylaxis is considered, specialist virological/microbiological advice should be sought.
- v. The efficacy of prophylaxis is unknown for recipients of *potentially* infected organs from donors known to be infected.
- vi. The 10-day period following diagnosis represents a precautionary approach in the absence of strong evidence and follows virological advice about prolonged shedding of virus and involvement of other organs in the severely ill patient.

Please note that these guidelines are for ORGANS ONLY and exclude tissues and stem cells. Guidance for tissue donors is given in JPAC Change Notification 2009 numbers 28 and 29; and for stem cell and cord blood donors in JPAC Change Notification 2009 numbers 30 and 31. These are available at the [JPAC website](#).

Bibliography

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